

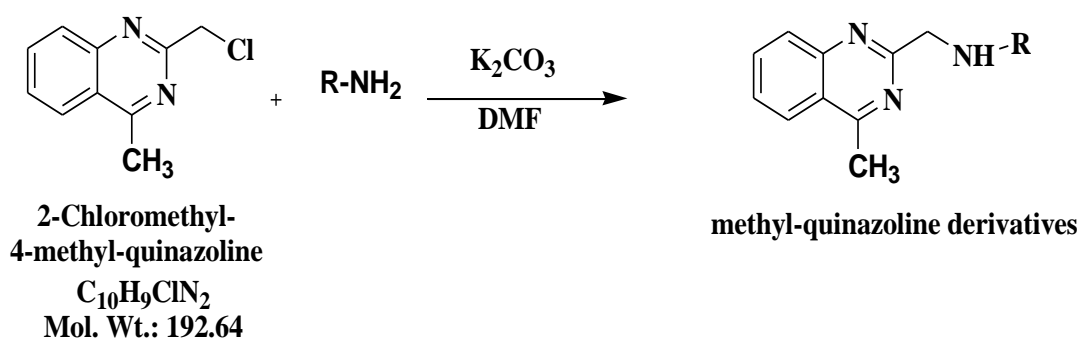
Abstract

Some new substituted 4-Methyl quinazoline derivatives (**DJP/D102 to DJP/D125**), substituted 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol derivatives (**DJP/D131 to DJP/D145**), substituted 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol ester derivatives (**DJP/D146 to DJP/D155**) and substituted 3-Trifluoromethyl-5,6,7,8-tetrahydro-[1,2,4]triazolo[4,3-a]pyrazine derivatives (**DJP/D156 to DJP/D165**) are synthesized. All the synthesized compounds were confirmed for their structure by FT-IR, $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, and Mass spectra and were tested *in vitro* for their antibacterial activity. All the new compounds showed moderate antimicrobial activity in the agar cup assay method.

Graphical Abstract:

[A]

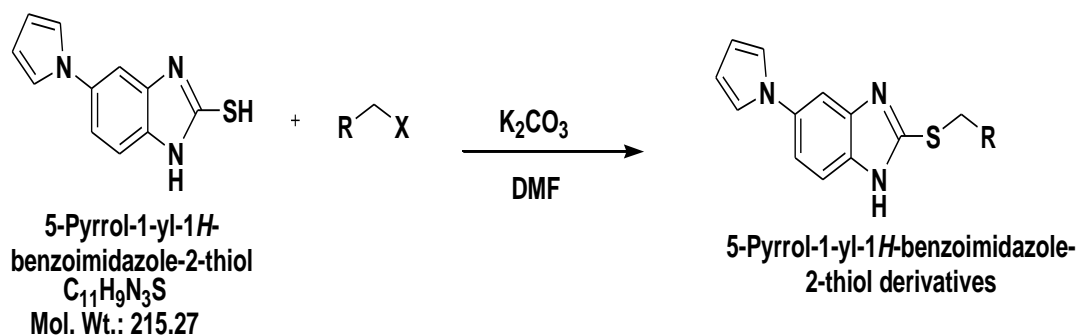
New substituted 4-Methyl quinazoline derivatives. Reaction scheme shown as given below.



R= substituted Piperazine, Piperadine, Morpholine, substituted Morpholine, Phenyl amine, Pyrrolidine, substituted pyrrolidine, aliphatic amine, aromatic amine, substituted pyrrole

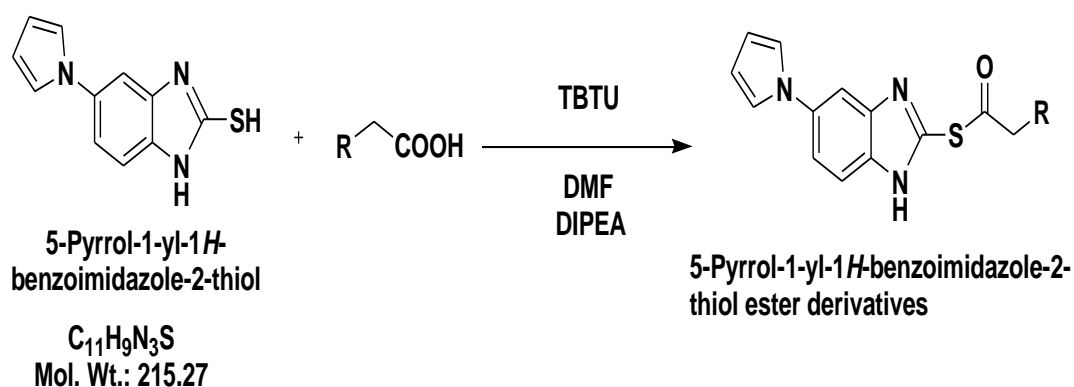
[B]

New 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol derivatives. Reaction scheme shown as given below.



Where R= alkyl halide and aryl halide

New 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol ester derivatives. Reaction scheme shown as given below.



Where

R= Different aliphatic acid substituent.

TBTU=2-(1H-benzotriazole-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate.

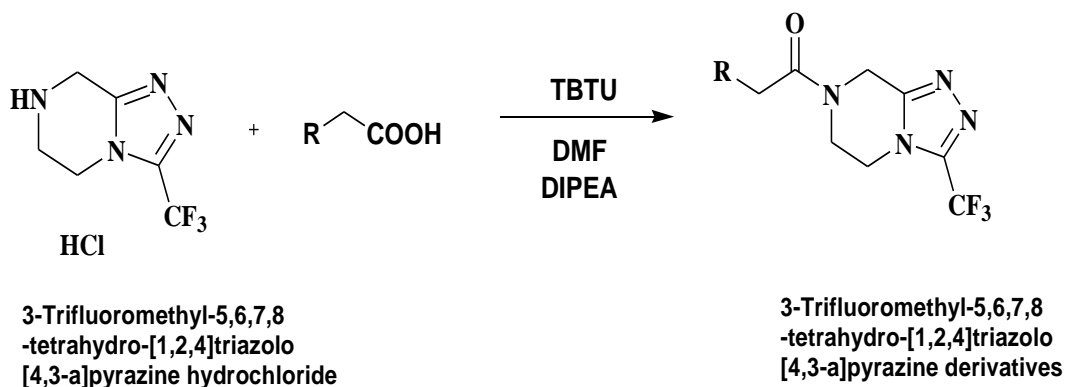
DIPEA=N,N-Diisopropyl ethyl amine.

DMF=N,N-Dimethyl formamide.

[C]

novel 3-Trifluoromethyl-5,6,7,8-tetrahydro-[1,2,4]triazolo[4,3-a]pyrazine derivatives.

Reaction scheme shown as given below.



Where

R= Different aliphatic and aromatic acid substituent.

TBTU=2-(1H-benzotriazole-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate.

DIPEA=N,N-Diisopropyl ethyl amine.

DMF=N,N-Dimethyl formamide.

Keywords: Quinazoline, Benzimidazole, Triazole antibacterial and antifungal activity.